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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,060	04/04/2001	Howard Andrew Heller	2504/OH467	2394

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EXAMINER
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PEREZ DAPLE, AARON C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 09/07/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/826,060

Applicant(s)

HELLER, HOWARD ANDREW

Examiner

Aaron C Perez-Daple

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/20/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Action is in response to Application filed 4/4/01.
2. Claims 1-11 are presented for examination.
3. This Action is non-Final.

#### ***Drawings***

4. New drawings in compliance with 37 CFR 1.121(d) are required in this application because the present drawings, particularly Figs. 2 and 4, are not of sufficient quality. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

#### ***Specification***

5. The abstract of the disclosure is objected to because it is too long. The abstract should be limited to approximately 150 words. Correction is required. See MPEP § 608.01(b).

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. **Claims 1-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins ("IP Mobility Support," RFC 2002, October 1996) (hereinafter Perkins) in view of Chuah et al. (US 6,400,722 B2) (hereinafter Chuah). Perkins is cited by Applicant in IDS filed 10/20/03.
8. **Examiner's Interpretation:** The Examiner finds that a conventional foreign agent (FA) is sufficient to teach both the FA and the proxy mobile node (PMN) of the presently claimed invention. The Examiner notes that Perkins teaches using an FA to arbitrate the registration process. Specifically, the last paragraph of pg. 7 recites:

The mobile node operating away from home then registers its new care-of address with its home agent through exchange of a Registration Request and Registration Reply message with it, possibly via a foreign agent (Section 3).

Section 3.7 of Perkins discusses this process in further detail. Thus, the conventional FA includes software for communicating on the network (e.g. a protocol stack), which is interpreted as the FA of the presently claimed invention, and software for handling the registration request on behalf of the mobile node (MN), which is interpreted as the PMN of the presently claimed invention. The base station is interpreted as the hardware portion of the FA required for maintaining a wireless link with the MN (see section 1.2). Under this interpretation, Perkins teaches all the limitations of the claims. Nonetheless, Chuah is cited to provide further support for the rejection, as detailed below.

9. As for claims 1 and 7, Perkins teaches a method and system for transmitting information in a Mobile Internet Protocol (IP) network including a mobile node (MN), a base station (BS) and a home network, wherein a proxy mobile node (PMN) and a foreign agent (FA) are provided at the BS, and a home agent (HA) is provided at the home network, the method comprising the steps of:

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the MN detecting the BS (Section 2.1, Agent Advertisement);

the PMN identifying the MN (Sections 3.7.1 and 3.7.2);

the PMN retrieving an IP address for each of the MN, FA and HA (Section 3.7.1 and 3.7.2.2);

the PMN sending a registration request to the FA (Section 3.7.2.2);

the FA relaying the request to the HA (Section 3.7.2.2);

the HA registering the proxy MN identified with the MN (Section 3.8);

the HA forwarding Mobile IP packet to the FA by encapsulating the information into at least one Mobile IP packet (Sections 1.7 and 4.2.3);

the FA unencapsulating the forwarded IP packet into original data (Section 1.7); and

the FA forwarding the original data to the MN (Sections 1.7 and 4.2.2).

Even assuming without admitting that the PMN of the presently claimed invention can be distinguished from the conventional FA taught by Perkins, Chauh is cited as evidence that it was well-known to one of ordinary skill in the art at the time of the invention to use a proxy mobile node (proxy registration agent) in conjunction with a foreign agent at a base station (col. 8, line 63 – col. 9, line 24). It would have been obvious to one of ordinary skill in the art to modify the teachings of Perkins by using a PMN to register on behalf of the MN in order to improve routing efficiency, as taught by Chauh (col. 2, lines 43-62).

10. As for claims 2 and 8, Perkins teaches the method and system of claims 1 and 7 further comprising the steps of:

determining whether a new base station (BS) including a new proxy mobile node (PMN) is detected (Sections 1.4 and 1.7);

if it is determined that a new base station is detected,

(a) the new PMN sending a new registration request to a new foreign agent (FA)

associated with the new BS (Section 3.7.2.2);

(b) the FA relaying the new registration request to the HA (Section 3.7.2.2);

(c) the HA registering the new proxy MN (Section 3.8); and

(d) the HA forwarding the Mobile IP packet to the new FA (Sections 1.7 and 4.2.3).

11. As for claim 3, Perkins teaches the method of claim 2 further comprising the step of acknowledging the registration of step (c) (Section 3.8.3).
12. As for claims 4 and 9, Perkins teaches the method and system of claims 1 and 7 wherein the MN comprises customer premise equipment (CPE) and a computer (Section 1; see also Chauh, col. 5, line 60 – col. 6, line 6).
13. As for claims 5 and 10, although arguably inherent to Perkins, Perkins does not explicitly teach a CPE comprising at least one of a wireless radio, personal digital assistant (PDA) and a mobile telephone, T1 line, cable modem, digital subscriber line (DSL) and asymmetric digital subscriber line (ADSL) modem. Chauh teaches a CPE comprising at least one of a wireless radio, personal digital assistant (PDA) and a mobile telephone, T1 line, cable modem, digital subscriber line (DSL) and asymmetric digital subscriber line (ADSL) modem for facilitating communications between a computer and a base station (col. 5, line 60 – col. 6, line 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Perkins by using a CPE comprising at least one of a wireless radio, personal digital assistant (PDA) and a mobile telephone, T1 line, cable modem, digital subscriber line (DSL) and asymmetric digital subscriber line (ADSL) modem in order to

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facilitate communications between a computer and a base station (col. 5, line 60 – col. 6, line 6), as taught by Chauh above.

14. As for claims 6 and 11, Perkins teaches the method and system of claims 1 and 7 further comprising the step of storing additional information for the PMN in a database wherein the additional information comprises:

a home address which is an IP address of the MN (Section 3.7.1, IP Source Address);

a foreign agent IP address which is an IP address of the FA (Section 3.7.2.2, IP Source Address);

a home agent IP address which is an IP address of the HA (Section 3.7.1, the home agent address);

a care-of address which is an IP address for a destination for the information (Section 3.7.1, destination address);

mobile-foreign security information which is a security association between the MN and the FA (Section 3.5.3);

mobile-home security information which is a security association between the MN and the HA (Section 3.5.2);

an identification field value for matching registration requests and acknowledgments (Section 3.3, identification);

a lifetime value for a number of seconds allowed from the registration before the registration is considered expired (Section 3.7.1, requested lifetime); and

a current lifetime value for a number of seconds remaining before the registration is considered expired (Section 3.7.1, remaining lifetime).

*Conclusion*

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,647,001 B1, note use of proxy server;

US 6,711,147 B1, note Fig. 3 and col. 5;

US 6,230,012 B1, note use of mobile node proxy;

US 2002/0026527 B1, note mobile node proxy;

US 6,697,627 B1, note Fig. 2;

US 2002/0080752 B1, note abstract;

US 6,594,706 B1, note Fig. 3;

US 5,946,618, note Fig. 1;

US 6,446,964, note use of proxy registration agent at FA.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (703) 305-4897. The examiner can normally be reached on 9am-5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information



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about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 8/31/04

Aaron Perez-Daple

